

Claims

- [c1] 1. A liquid fuel rocket engine member (10) comprising:
a load bearing wall structure (14, 15) including a plurality of cooling channels (11), wherein the outside of the wall structure includes a curved sheet metal wall (14) and wherein the cooling channels (11) are longitudinally attached to the sheet metal wall; and
a material with a higher thermal conductivity than the load bearing wall structure (14, 15) has been applied to said wall structure, that the material (17) is arranged in contact with the sheet metal wall (14), that the material forms a substantially continuous contact surface against the sheet metal wall (14) from the wall of one cooling channel to the wall of an adjacent cooling channel and that the material (17) at least partly surrounds the walls of the cooling channels (11).
- [c2] 2. The liquid fuel rocket engine member as recited in claim 1, further comprising:
the material (17) has been applied to the inside of the wall structure (14, 15).
- [c3] 3. The liquid fuel rocket engine member as recited in claim 1, further comprising:

the material (17) has been applied between the cooling channels (11).

- [c4] 4. The liquid fuel rocket engine member as recited in claim 3, further comprising:
the material (17) is arranged in contact with the walls of two adjacent cooling channels (15) forming a connection between them.
- [c5] 5. The liquid fuel rocket engine member as recited in claim 1, further comprising:
the material (17) is arranged on a surface of the cooling channel walls facing the interior of the member (10).
- [c6] 6. The liquid fuel rocket engine member as recited in claim 1, further comprising:
the material (17) is also positioned at the outside of the wall structure (14, 15) as a layer (19).
- [c7] 7. The liquid fuel rocket engine member as recited in claim 1, further comprising:
the material (17) comprises copper.
- [c8] 8. The liquid fuel rocket engine member as recited in claim 1, further comprising:
the material (17) comprises silver.
- [c9] 9. The liquid fuel rocket engine member as recited in

claim 1, further comprising:
the material (17) has been applied by brazing.

- [c10] 10. The liquid fuel rocket engine member as recited in claim 1, further comprising:
the material (17) has been applied by laser sintering.
- [c11] 11. A method for manufacturing a liquid fuel rocket engine member (10) comprising:
arranging a plurality of cooling channels (15) adjacent to each other for at least partly forming a wall structure of the member, wherein the cooling channels (11) are longitudinally attached to a curved sheet metal wall (14) on the inside of the same, thereby forming said wall structure; and
applying a material (17) with a higher thermal conductivity than the material of the wall structure (14, 15) to said wall structure so that the material (17) is applied between the cooling channels (11), that the material (17) is arranged in contact with the walls of two adjacent cooling channels (15) forming a connection between them and that the material (17) at least partly surrounds the walls of the cooling channels (11).
- [c12] 12. The method as recited in claim 11, further comprising:
applying the material (17) to the inside of the wall struc-

ture (14, 15).

- [c13] 13. The method as recited in claim 11, further comprising:
arranging the material (17) on a surface of the cooling channel walls facing the interior of the member (10).
- [c14] 14. The method as recited in claim 11, further comprising:
positioning the material (17) at the outside of the wall structure (14, 15) as a layer (19).
- [c15] 15. The method as recited in claim 11, further comprising:
applying the material (17) by a melting process.
- [c16] 16. The method as recited in claim 15, further comprising:
applying the material (17) by brazing.
- [c17] 17. The method as recited in claim 15, further comprising:
applying the material (17) by casting.
- [c18] 18. The method as recited in claim 15, further comprising:
applying the material (17) by laser sintering.